

New Mexico butterflies: checklist, distribution and conservation

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Abstract. This systematic list is intended to include every butterfly taxon observed in New Mexico. New Mexico has one of the most diverse butterfly faunas in the United States, with about 300 species. Taxon distribution in New Mexico is provided at the county level. Conservation status and concerns in New Mexico are also presented. The validity of questionable reports from this state are discussed and resolved where possible.

ABOUT NEW MEXICO

New Mexico (NM) is the fifth largest state in the United States. Because of its location, NM supports elements of several regional butterfly faunas, including Great Plains, southern Rocky Mountains, Great Basin and Colorado Plateau, Sonoran and Chihuahuan Deserts, and Sierra Madre. Land surface elevations range from 914 m to 4012 m above sea level, supporting life zones from lower Sonoran to Arctic. Annual precipitation varies, primarily with latitude, from less than 25 cm to more than 110 cm. Number of frost free days varies locally from less than 80 to more than 220. The Continental Divide crosses the state from north to south and provides headwaters for major drainage basins such as the Colorado River, Rio Grande, Pecos River, and Arkansas River. Proximity to Mexico allows frequent summer influxes of subtropical species.

NM has always been a rural state with few resident lepidopterists. Reliable documentation of our butterfly fauna began in the 1870s and 1880s, but was sporadic until the 1960s. Many years of effort by the few NM lepidopterists were needed to gather enough information about our large, diverse state to issue this comprehensive state list. Now that all available information is compiled, it constitutes an impressive list, coming to about 300 species. Perhaps 95 percent of all breeding butterfly residents have been identified and confirmed. Much work remains to be done to identify remaining residents and to understand further the biology and distribution of known residents.

FAUNAL LIST ORGANIZATION

Butterflies are presented here in the format and taxonomy of Scott (1986). Scott's approach does not adequately describe every situation in NM, however. In such cases the issues are discussed in **NOTES**, which follows the list. This document does not attempt to make taxonomic revisions or name new taxa.

Family names are given in upper case letters. For all taxa, genera, species and subspecies are italicized, with genera capitalized. Taxon authors are presented in normal font. A common name usually follows each scientific name.

Next are given the counties in which each taxon is known to occur. NM's 33 counties are shown in Figure 1 and abbreviated as follows:

Bernalillo	Be	Harding	Ha	Roosevelt	Ro
Catron	Ca	Hidalgo	Hi	Sandoval	Sv
Chaves	Ch	Lea	Le	San Juan	SJ
Cibola	Ci	Lincoln	Li	San Miguel	SM
Colfax	Co	Los Alamos	LA	Santa Fe	SF
Curry	Cu	Luna	Lu	Sierra	Si
DeBaca	DB	McKinley	MK	Socorro	So
Dona Ana	DA	Mora	Mo	Taos	Ta
Eddy	Ed	Otero	Ot	Torrance	To
Grant	Gr	Quay	Qu	Union	Un
Guadalupe	Gu	Rio Arriba	RA	Valencia	Va

The breeding or residency status of each taxon is given next. Residents overwinter and breed regularly in NM. Seasonal residents regularly fly in from subtropical areas during the warm season and may produce one or more generations before winter weather eliminates survivors. Strays wander into NM more or less by accident, with no known evidence of breeding. Hypothetical species are those whose presence here has been reported, then either refuted or seriously questioned, as signified by brackets []. Queries (?) indicate uncertainty. The final entry for some taxa is a numerical reference to one of the explanations in **NOTES**.

SOURCES OF INFORMATION

This document represents the accumulated knowledge and personal observations of the authors, observations of associates, contents of personal collections, published papers, and other published accounts.

The following public collections were reviewed for NM specimens: Allyn Museum of Entomology (AME), American Museum of Natural History (AMNH), California Academy of Sciences (CAS), Carnegie Museum (CM), Denver Museum of Natural History (DMNH), Eastern New Mexico University, Portales (ENMU), Illinois Natural History Survey (INHS), Los Angeles County Museum of Natural History (LACM), New Mexico Highlands University, Las Vegas (NMHU), New Mexico State University, Las Cruces (NMSU), United States Museum of Natural History, Smithsonian (USNM), University of Kansas (UK), and University of New Mexico, Albuquerque (UNM).

HISTORICAL FOUNDATIONS AND ACKNOWLEDGMENTS

Many lepidopterists, professional and amateur, played key roles in the original observations assembled in this document. Key contributors to the knowledge of the NM butterfly fauna include:

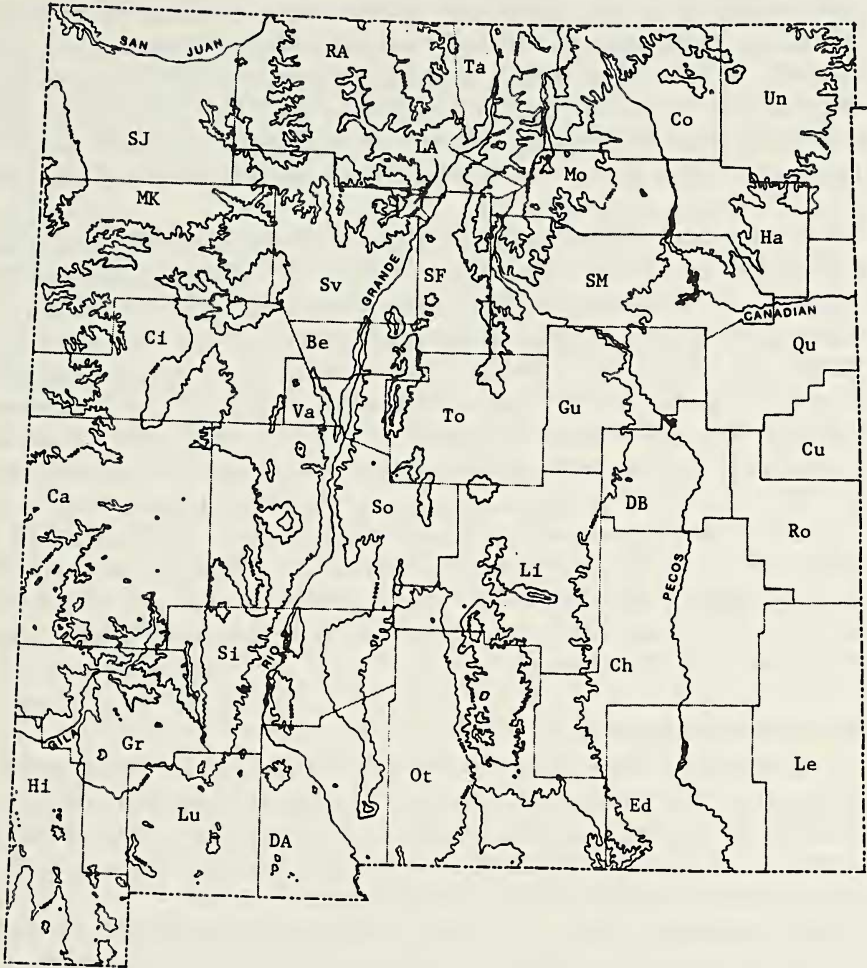


Fig. 1 Map of New Mexico indicating county abbreviations used in the text. Contour lines for 2134 m (7000') and 2778 m (9000') elevations emphasize prominent physiographic features. Major rivers are shown.

Frederick H. Snow and his students, from the University of Kansas, contended with numerous frontier obstacles in the 1880s. They travelled newly established railroad lines into NM and made collections near Las Vegas, Santa Fe, Socorro, Deming and Silver City. Much of Snow's collection remains at UK.

T. D. A. Cockerell was a faculty member of the NM College of Agricultural and Mechanical Arts, a precursor of NMSU, in Las Cruces. He and his associates performed entomological research and collected butterflies near Las Cruces, Las Vegas, Alamogordo and Ruidoso in the 1890s and early 1900s. He published numerous scientific papers and described several taxa. Some of his specimens remain in the collections at NMSU.

John Woodgate collected butterflies intensively in NM during the period 1904 - 1925. He concentrated his work at Jemez Springs in the

Jemez Mountains, and near Fort Wingate in the Zuni Mountains. Several new taxa were described from material he collected.

John P. Hubbard directed the Endangered Species Program in the New Mexico Department of Game and Fish in the 1970s and 1980s. His biologists collected butterfly specimens in areas of special biological interest in NM, such as the Animas Mountains in the "bootheel" and Sierra Grande in Union County.

For many years Clifford D. Ferris, of the University of Wyoming, has researched butterflies in southwestern NM, emphasizing Grant County. From this work he has published several important scientific papers.

Michael E. Toliver studied NM butterflies statewide in the 1960s and 1970s and published scientific papers. He was the first to compile butterfly taxa into a NM fauna (Toliver and Holland, 1977). Toliver reviewed Snow's 100-year old specimens at UK, resolved several questions raised by Snow's reported observations, and updated his nomenclature. This document is dedicated to Mike, who first imagined it.

In addition to the pleasures of association with Drs. Ferris and Toliver, we have been encouraged and supported in our efforts by Drs. John M. Burns, Gregory S. Forbes, Paul A. Opler, Robert K. Robbins, James A. Scott, Ray E. Stanford, other members of the Lepidopterists' Society, and other observers of butterflies.

CONSERVATION ISSUES

Despite NM's rural character, several NM butterflies warrant attention from a conservation perspective. Of principal interest are areas where there is endemism at the subspecies level, such as the Trans-Pecos desert mountains, the Sacramento Mountains, the Raton Mesa complex, and areas which support Pleistocene relicts.

The Trans-Pecos region of southern NM supports several taxa with limited distributions, such as *Fixsenia polingi*, *Chlosyne chinatiensis*, *Callophrys henrici solatus*, and *Agathymus mariae*. Populations of *F. polingi* are known only from three sites in NM: Organ Mountains, Guadalupe Mountains, and Capitan Mountains; plus a few places in west Texas (TX). Larvae feed only on oaks (*Quercus* spp.). It is not known how extensive or healthy these populations are as a whole, but the Guadalupe Mountains locality illuminates some of the issues. The Guadalupes straddle the NM/TX border. On the TX side, under the jurisdiction of Guadalupe Mountains National Park, larval host oaks thrive and *F. polingi* is widespread. On the NM side, however, where the Lincoln National Forest manages the land, host oaks and *F. polingi* are virtually nonexistent. Oaks and *F. polingi* are sensitive to land management practices such as grazing and fires in that area.

The Sacramento Mountains/Sierra Blanca range, just north of the Trans-Pecos is a prominent biogeographic island of disjunct montane butterflies. This range climbs to 3658 m elevation covers a large area, and is 150 km from comparable upland habitats to the north and west. Taxa

with relict Pleistocene populations there include: *Harkenclenus titus*, *Callophrys sheridanii*, *C. apama*, *Glaucopsyche lygdamus*, *Plebejus icarioides*, and *Phyciodes tharos* Type B. Although taxonomic study is still needed, most butterflies of interest here probably are differentiated at the subspecies level. Endemic subspecies already described for this area include *Speyeria atlantis capitanensis* and *Euphydryas anicia cloudcrofti*.

The Raton Mesa volcanic complex in northeast NM supports several taxa of interest due to its harsh climate, high elevation exceeding 2200 m, and long eastward extension from the Rocky Mountain Front Range into the Great Plains. Among the subspecific endemics in this area are *Oeneis alberta capulinensis*, *Speyeria atlantis ratonensis*, and *Poanes hobomok wetona*. Other species reported from here are unknown, or nearly so, from elsewhere in NM: *Polites peckius*, *Atrytonopsis hianna*, and *Satyrrium liparops*. NM colonies of these species are very local and very few in number.

NM presently is a semi-arid state where water can be locally scarce. Wetland and riparian plants and animals prospered during the Pleistocene Ice Ages, when the southwestern US was much wetter than today. Drier post-Pleistocene climates restricted wetland and riparian butterflies to isolated pieces of their former ranges. Modern modification of hydrologic environments by human activities further fragments these habitats and may threaten survival of some obligate riparian butterflies, such as *Limenitis archippus*, *Speyeria nokomis* and *Ochlodes yuma*.

L. archippus larvae rely primarily on willows (*Salix* spp.) in a state where there has been large scale modification of natural hydrologic systems with resulting loss of native cottonwood/willow riparian forests. Dams built for management of floods and irrigation waters inundate much habitat. River flow downstream from such projects is reduced in volume as water is diverted to croplands. Floods are tamed, eliminating conditions necessary for germination of cottonwood seedlings and inviting invasion of salt cedar (*Tamarisk* sp.). The Desert Viceroy, *L. a. obsoleta*, was once studied for possible listing under the federal Endangered Species Act. It continues to survive in scattered populations in the Gila River, Rio Mimbres, Rio Grande and Pecos River valleys, but the size, number and health of these colonies remains unknown. Colonies along the Pecos seem to be the least numerous and the most isolated.

Speyeria nokomis is restricted to scarce montane wetland habitats which are vulnerable to adverse changes such as drainage for cultivation or excessive livestock grazing. Changes in the Sacramento Mountains, for another example, were related to logging in the early 20th century. After removal of trees, mountain valleys shed stormwater more quickly than under prior forested conditions. Through gullying and channel erosion, stream channels enlarged themselves to carry the increased runoff. Many miles of streamside wet meadows with lots of *nokomis* larval host *Viola nephrophylla* were cut by 5-m deep ephemeral arroyos and converted into dry meadows incapable of supporting *S. nokomis*.

The other riparian species is *O. yuma*. We know of only one colony in NM; it is being described elsewhere as a new subspecies (Cary and Stanford, *in litt.*). Like *nokomis*, *yuma* relies on a single larval host, in this case *Phragmites australis* (Common Reed), which is an obligate riparian plant in NM. Hydrologic alterations near the colony site could lead to loss of the larval host, and then the butterfly. One potential threat to the colony is a proposed mining development nearby. A mill tailings impoundment could change the quality, quantity, flow regime or flow paths of seeps and springs which presently support the hostplant colony. Searches for other *O. yuma* colonies in NM have failed.

Several NM species are recorded only from the state's bootheel-shaped southwest corner, in Hidalgo or adjacent counties. There, Sierra Madrean climates and plant communities support species which, although not rare in their core Mexican ranges, are unique in NM. The most important of these are residents for which only one or two NM colonies are known: *Pyrrhopyge araxes*, *Adopaeoides prittwitzi*, *Poanes melane*, *Atrytonopsis edwardsi*, *Agathymus polingi*, *Neophasia terlootii*, *Callophrys xami*, *Calephelis rawsoni*, and *Emesis ares*.

Also important are Arctic/Alpine environments in north central NM. There, high peaks, marshes and ridges exceeding 3600 m elevation support Arctic Rocky Mountain species which are known from only one or two sites in NM: *Erebia magdalena*, *Boloria freija*, *Lycaena cuprea*, *Colias meadii*, and *Pieris occidentalis*. While not obviously threatened, the extremely limited occurrence of these species in NM is noteworthy.

NEW MEXICO FAUNAL LIST

HESPERIIDAE (SKIPPER)

Pyrrhopyge araxes (Hewitson). Araxes Skipper. Hi. Resident.

[*Proteides mercurius* (Fabricius)]. Hypothetical. Note 1.

Epargyreus clarus (Cramer). Silver-Spotted Skipper. Be,Ca,Co,DA,Gr,Hi,Li,LA,Mo,Ot,RA,Sv,SJ,SM,SF,Si,So,Ta,To,Un. Resident.

[*E. exadeus* (Cramer)]. Hypothetical. Note 1.

Polygonus leo (Gmelin). Violet Skipper. Ed,Hi,Ot,Si,To. Stray.

Chioides catillus (Cramer). Silver-Banded Skipper. Hi,Lu. Stray.

Zestusa dorus (W. H. Edwards). Short-Tailed Arizona Skipper. Be,Ca,Co,Gr,Hi,Li,MK?,Mo,Ot,RA,Sv,SM,SF,Si,So,Ta,To,Va. Resident.

Codatractus arizonensis (Skinner). Arizona Skipper. Hi,Lu. Stray.

Urbanus proteus (Linnaeus). Blue-Green Long-Tailed Skipper. Hi. Stray.

U. dorantes (Stoll). Lilac-Banded Longtail. Hi. Stray.

[*U. simplicius* (Stoll)]. Hypothetical. Note 2.

U. procne (Plotz). Brown Longtail. Hi. Stray.

[*Astrartes fulgurator* (Walch)]. Hypothetical. Note 3.

Autochton cellus (Boisduval and Leconte). Gold-Banded Skipper. Ca,Gr,Hi. Resident.

- Achalarus casica* (Herrich-Schaffer). Desert Hoary Edge. Gr,Hi,Lu. Resident.
[*Thorybes bathyllus* (J. E. Smith)]. Hypothetical. Note 4.
- T. pylades* (Scudder). Northern Cloudywing. Be,Ca,Ch,Ci,Co,DA,Ed,Gr,Ha,Hi,LA,Lu,MK,Mo,Ot,RA,Sv,SJ,SM,SF,Si,So,To,Un. Resident.
- T. mexicanus* (Herrich-Schaffer). Mountain Cloudywing. Be,Ca?,Co,Gr,Li,LA,Mo,Ot,RA,Sv,SJ,SM,SF,Ta. Resident.
- T. drusius* (W. H. Edwards). White-Edged Cloudywing. Hi. Resident.
- Cogia hippalus* (W. H. Edwards). White-Edged Skipper. DA,Hi,Lu. Resident.
- C. caicus* (Herrich-Schaffer). Arizona White-Edged Skipper. Ca,Gr,Hi,Lu,Si. Resident.
- Staphylus ceos* (W. H. Edwards). Redhead Sootywing. Be,Ca,DA,Ed,Gr,Hi,Lu,Ot,Si. Resident.
- [*Xenophanes trixus* (Stoll)]. Hypothetical. Note 49.
- Systasea pulverulenta* (R. Felder). Texas Powdered Skipper. Ed. Resident.
- S. zampa* (W. H. Edwards). Arizona Powdered Skipper. Ca,DA,Ed,Gr,Hi,Lu,Ot,Si. Resident.
- [*Grais stigmaticus* (Mabille)]. Hypothetical. Note 49.
- Timochares ruptifasciatus* (Plotz). Brown-Banded Skipper. Gr. Stray.
- Chiomara asychis* (Stoll). White Patch Skipper. Hi. Stray.
- Erynnis icelus* (Scudder and Burgess). Aspen Duskywing. Be,Ca,Ci,Co,Gr,Li,LA,Mo,Ot,RA,Sv,SJ,SM,SF,Si,Ta,To,Un. Resident.
- E. brizo* (Boisduval and Leconte). Banded Oak Duskywing. All counties. Resident.
- E. juvenalis clitus* (W. H. Edwards). Sonoran Oak Duskywing. Hi. Resident. Note 5.
- [*E. j. juvenalis* (Fabricius)]. Hypothetical. Note 6.
- E. telemachus* Burns. Gambel Oak Duskywing. All counties except Cu,DB,Gu,Hi,Le,Qu,Ro. Resident.
- [*E. propertius* (Scudder and Burgess)]. Hypothetical. Note 7.
- E. meridianus* Bell. Southwestern Oak Duskywing. Be,Ca,Ch,DA,Ed,Gr,Ha?,Hi,Li,Lu,Ot,Sv,Si,So,To. Resident. Note 8.
- E. scudderi* (Skinner). Scudder's Duskywing. Hi. Resident?
- E. horatius* (Scudder and Burgess). Brown Duskywing. Co,Ed?,Ha,Li,Mo,Ot,Qu,RA,Sv,SM,SF,Un. Resident. Note 9.
- E. tristis tatus* (W. H. Edwards). White-Edged Duskywing. Ca,Ch,DA,Ed,Gr,Gu,Hi,Li,Lu,Ot,Si,So. Resident.
- [*E. martialis* (Scudder)]. Hypothetical. Note 10.
- E. pacuvius* (Lintner). Buckthorn Duskywing. Be,Ca,Ci,Co,Gr,Hi,Li,LA,MK,Mo,RA,Sv,SJ,SM,SF,Si,So,Ta,To. Resident.
- E. funeralis* (Scudder and Burgess). Streamlined Duskywing. All counties except Co,Cu,DB,Qu,RA,Ro,Va. Resident.
- E. afranius* (Lintner). Bald Duskywing. All counties except Ch,Ci?,Co,DA,DB,Ed?,Le,Lu,Ot?,Ro,Va. Resident. Note 11.

- E. persius* (Scudder). Hairy Duskywing. Be,Ca,Ci?,Co,Gr,LA,Mo?,Ot,RA,Sv, SJ,SF,Si?,Ta,To,Un. Resident. Note 11.
- Pyrgus centaureae loki* Evans. Alpine Checkered Skipper. Co,Mo,RA,SM,SF, Ta. Resident.
- P. xanthus* W. H. Edwards. Mountain Checkered Skipper. Ca,Ci,Co,Li,LA, MK,Mo,Ot,RA,Sv,SM,So. Resident.
- P. scriptura* (Boisduval). Small Checkered Skipper. Be,Ca,Ch,Ci,DA,Ed,Ha, Hi, Lu,MK,Ot,Sv,SM,SJ,Si,So,To,Un. Resident.
- P. communis communis* (Grote). Checkered Skipper. All counties. Resident. Note 12.
- P. c. albescens* (Plotz). White Checkered Skipper. Ca,Ci,Gr,Gu,Hi,Li,MK,Qu, So. Resident. Note 12.
- P. oileus* (Linnaeus). Tropical Checkered Skipper. Hi. Seasonal Resident.
- P. philetas* W. H. Edwards. Desert Checkered Skipper. Hi,Lu. Resident.
- Heliopetes domicella* (Erichson). Banded White Skipper. Lu. Stray.
- H. ericetorum* (Boisduval). Great Basin White Skipper. Ca, MK,RA,SJ. Resident.
- Celotes nesus* (W. H. Edwards). Streaky Skipper. Ca,Ch,DB,DA,Ed,Gr,Gu, Ha,Hi,Li,Lu,Ot,Qu,SM,Si,So,Un. Resident.
- Pholisora catullus* (Fabricius). Common Sootywing. All counties except LA, Mo,RA,SJ,Va. Resident.
- P. mejicana* (Reakirt). Mexican Sootywing. Be,Co,Ed?,Li,Mo?,Ot,SM,SF,To, Un. Resident.
- Hesperopsis libya* (Scudder). Great Basin Sootywing. SJ. Resident.
- H. alpheus* W. H. Edwards. Saltbush Sootywing. Be,Ch,Ci,Co,DB,DA,Ed,Gr, Hi,MK,Ot,RA,Sv,SJ,Si,So. Resident. Note 13.
- Piruna pirus* (W. H. Edwards). Russet Skipperling. Be,Ca?,Co,Gr?,LA,Mo,RA, Sv,SJ,SM,SF,Si?,So,Ta,To,Un. Resident.
- P. polingii* (Barnes). Spotted Skipperling. Ca,Gr,Li,Ot,Si. Resident.
- Lerema accius* (J. E. Smith). Clouded Skipper. Ed,Hi. Stray.
- Ancyloxypha numitor* (Fabricius). Least Skipperling. Un. Resident.
- A. arene* (W. H. Edwards). Tropical Least Skipperling. Ca,Ch,DA,Ed,Gr,Gu, Hi,Ot,Si,So. Resident.
- Oarisma garita* (Reakirt). Western Skipperling. Be,Ca,Ci,Co,Gr,Li,LA,MK, Mo,Ot,RA,Sv,SM,SF,So,Ta,To,Un. Resident.
- O. edwardsii* (Barnes). Edwards' Skipperling. Be,Ch,Ci,Co,DA,Ed,Gr,Ha,Hi, Li,LA,MK,Mo,Ot,RA,Sv,SM,SF,Si,So,Ta,To,Un. Resident.
- Copaeodes aurantiacus* (Hewitson). Orange Skipperling. Be,Ca,Ch,Cu,DB,DA, Ed,Gr,Gu,Hi,Li,Lu,Ot,Qu,Ro,SM,Si,So,Va. Resident.
- Adopaeoides prittwitzi* (Plotz). Black-Veined Skipperling. Hi. Resident.
- Hylephila phyleus* (Drury). Fiery Skipper. Be,Ca,Ch,Cu,DB,DA,Ed,Gr,Hi,Le, Lu?, Ot,Ro,Si,So. Resident.
- Yvretta rhesus* (W. H. Edwards). Prairie Cobweb Skipper. Ca,Ci,Co,Ed?,Gr,Li, MK,Mo,Ot,Qu,RA,Sv,SM,SF,Ta,Un. Resident.

- Y. carus* (W. H. Edwards). Mexican Cobweb Skipper. Be,DA,Ed,Gr,Hi,Qu,Un. Resident.
- Stinga morrisoni* (W. H. Edwards). Morrison's Silver Spike. Ca,Ch,Ci,Co,Ed,Gr,Li,LA,Lu,MK,Mo,Ot,RA,Sv,SJ,SM,Si,So,Ta,To. Resident.
- Hesperia uncas uncas* W. H. Edwards. White-Vein Skipper. All counties except DA,Hi,Lu,Si. Resident.
- H. uncas lasus* (W. H. Edwards). Arizona White-Vein Skipper. Gr. Resident.
- H. juba* (Scudder). Jagged-Border Skipper. RA,Sv,SJ. Resident.
- H. comma colorado* (Scudder). Colorado Branded Skipper. Co,LA,Mo,RA,Sv,SM,Ta,Un. Resident.
- H. c. susanae* L. Miller. Susan's Branded Skipper. Ca,Ci,Gr,Li,MK, SJ. Resident.
- H. woodgatei* (R. C. Williams). Autumn Skipper. Ca,Ci,Ed,Gr,LA,MK,Sv,SM,SF,Si,So. Resident. Note 14.
- H. pahaska* (Leussler). Yellow-Dust Skipper. All counties except DB,Gu,Le. Resident.
- H. viridis* (W. H. Edwards). Black-Dust Skipper. All counties except DA,Le,LA,Lu. Resident. Note 15.
- H. nevada* (Scudder). Montane Skipper. Co,LA,Mo,RA,Sv,SM,SF,Ta. Resident. [*Polites peckius* (W. Kirby)]. Hypothetical. Note 49.
- P. sabuleti* (Boisduval). Saltgrass Skipper. RA,Sv,SJ,SF,Ta. Resident.
- P. draco* (W. H. Edwards). Rocky Mountain Skipper. Ci,Co,LA,MK,Mo,RA,Sv,SM,SF,So,Ta. Resident.
- P. themistocles* (Latreille). Tawny-Edged Skipper. Ca,Ci,Co,LA,Li,MK,Mo,Ot,RA,Sv,SM,SF,Ta,Un. Resident.
- P. origenes rhena* (W. H. Edwards). Western Cross-Line Skipper. Co,SM?,Un. Resident.
- [*P. mystic* (W. H. Edwards)]. Hypothetical. Notes 16,18.
- [*P. vibex* (Geyer)]. Hypothetical. Note 17.
- [*Pompeius verna* (W. H. Edwards)]. Hypothetical. Note 18.
- Atalopedes campestris* (Boisduval). Sachem. All counties except Ca,Ci,LA,MK,RA,Ta,To,Va. Resident.
- Atrytone logan* (W. H. Edwards). Delaware Skipper. Ch,Cu,DB,Ed,Gu,Ha,Li,Mo,Qu,Ro,SM,Un. Resident.
- Ochlodes sylvanoides* (Boisduval). Western Skipper. RA,Sv,SM?. Resident.
- O. yuma* (W. H. Edwards). Giant Reed Skipper. Ta. Resident.
- Paratrytone snowi* (W. H. Edwards). Snow's Skipper. Ca,Ci,Co,Gr,LA,MK,Mo,Sv,SM,SF,Si,So,Ta. Resident.
- Poanes hobomok wetona* Scott. Wetona Skipper. Co. Resident.
- [*P. zabulon* (Boisduval and Leconte)]. Hypothetical. Note 19.
- P. taxiles* (W. H. Edwards). Golden Skipper. Be,Ca,Ci,Co,DA,Gr,Li,LA,MK,Mo,Ot,RA,Sv,SJ,SM,SF,Si,So,Ta,To,Un. Resident.
- P. melane vitellina* (Herrich-Schaffer). Melane Skipper. Hi. Resident.
- [*Euphyes bimacula* (Grote and Robinson)]. Hypothetical. Note 20.

- E. vestris* (Boisduval). Dun Skipper. Be,Ca,Co,Ed,Gr,Ha,Li,LA,Mo,Ot,RA,Sv, SJ,SM,SF,So,Ta,To,Un. Resident.
- Atrytonopsis hianna* (Scudder). Dusted Skipper. Co,LA. Resident.
- A. deva* (W. H. Edwards). Desert Dusted Skipper. Ca,Gr,Hi,Si. Resident.
- [*A. elissa* (Godman)]. Hypothetical. Note 49.
- A. lunus* (W. H. Edwards). Violet Dusted Skipper. DA,Gr,Hi. Resident.
- A. vierecki* (Skinner). Viereck's Dusted Skipper. All counties except DB,Le,LA, Ro,Ta,Va. Resident. Note 21.
- A. pittacus* (W. H. Edwards). White-Bar Dusted Skipper. Ca,Gr,Hi, Lu. Resident.
- A. python* (W. H. Edwards). Yellow-Spot Dusted Skipper. Be,Ca,Ch,Ci,DA,Ed, Gr,Gu?,Hi,Li,LA,Lu,MK,Ot,RA,Sv,SF?,Si,So,To. Resident. Note 22.
- A. edwardsi* Barnes and McDunnough. Rounded Dusted Skipper. Hi. Resident.
- Amblyscirtes simius* W. H. Edwards. Hilltop Little Skipper. Be,Ch,Ci?,Co,Cu, DA,Ed,Gr,Gu,Ha,Hi,Li,LA,Mo,Ot,RA,Sv,SF,Un,Va? Resident.
- A. exotera* (Herrich-Schaffer). Sonoran Little Skipper. Ca,Gr,Hi, Si. Resident.
- A. cassus* W. H. Edwards. Tawny Little Skipper. Ca,Ci,Co,Gr,Hi,Li,LA,MK,Ot, RA,Sv,SM,Si,So. Resident.
- A. aenus* W. H. Edwards. Bronze Little Skipper. All counties except Le,LA,Ro, SJ,Va. Resident.
- A. oslari* (Skinner). Prairie Little Skipper. Be,Ca,Ch,Ci?,Co,DA,Ed,Gr,Ha,Hi, Li,LA,MK,Mo,Ot,Qu,RA,Sv,SM,SF,Ta,To,Un,Va? Resident. Note 23.
- A. texanae* Bell. Southwest Little Skipper. Ca,Ch,Ci,DA,Ed,Gr,Hi,Lu,Ot,Qu, Si. Resident.
- A. nereus* (W. H. Edwards). Creamy Little Skipper. Ca,Ed,Gr,Hi,Si. Resident.
- A. nysa* W. H. Edwards. Mottled Little Skipper. DB,DA,Ed,Hi,Le,Ot?,Qu,Ro. Resident.
- A. eos* (W. H. Edwards). Dotted Little Skipper. All counties except Ca,Ci,LA, MK,RA,SJ,SF,Ta. Resident. Note 24.
- A. vialis* (W. H. Edwards). Black Little Skipper. Co,LA,RA,Sv,Ta,Un. Resident.
- A. phylace* (W. H. Edwards). Redhead Little Skipper. Be,Ci,Co,Gr,Li,LA,MK, Mo,Ot,RA,Sv,SM,So,To,Un. Resident.
- [*A. fimbriata* (Plotz)]. Hypothetical. Note 25.
- Lerodea eufala* (W. H. Edwards). Gray Skipper. DA,Ed,Gr,Hi, Le,Lu,Ro. Stray.
- Calpododes ethlius* (Stoll). Canna Skipper. Ro. Stray.

MEGATHYMIDAE (GIANT SKIPPERS)

- Agathymus neumoegeni* (W. H. Edwards). Tawny Giant Skipper. Ca,Ch,DA, Ed,Gr,Lu,Ot. Resident. Note 26.
- A. aryxna* (Dyar). Arizona Giant Skipper. Gr,Hi,Lu. Resident.
- A. mariae* (Barnes and Benjamin). Lechuguilla Giant Skipper. Ch, Da,Ed,Ot. Resident.

- A. polingi* (Skinner). Little Giant Skipper. Hi. Resident.
- Megathymus yuccae* (Boisduval and Leconte). Yucca Giant Skipper. Be,Ca,Ch, Ci,DA,Ed,Gr,Hi,Li,LA,Lu,Mo,Ot,RA,Ro,Sv,SF,So,Ta,To,Un,Va. Resident. Note 27.
- M. streckeri streckeri* (Skinner). Plains Yucca Skipper. Be,Ci?,Li,MK,Ot,RA, Sv,SJ,SF,To? Resident.
- M. s. texanus* Barnes and McDunnough. Texas Yucca Skipper. Co,Cu,DB,Gu, Ha,Le?,Qu,Ro,SM,Un. Resident.
- M. ursus* Poling. Desert Yucca Skipper. DA,Ed,Hi,Ot,To. Resident. Note 28.

PAPILIONIDAE (SWALLOWTAILS)

- Parnassius phoebus pseudorotgeri* Eisner. Small Apollo. Co,Mo,RA, SM,SF,Ta. Resident.
- Battus philenor* (Linnaeus). Pipevine Swallowtail. Be,Ca,Ch,Ci,Co,DB,DA,Ed, Gr,Ha,Hi,Le,Li,Lu,MK,Mo,Ot,Qu,Ro,Si,So,Ta,To,Un. Resident.
- B. polydamas* (Linnaeus). Gold Rim. Lu. Stray.
- Papilio polyxenes asterius* Stoll. Eastern Black Swallowtail. All counties except Va? Resident. Note 29.
- P. bairdii* W. H. Edwards. Western Black Swallowtail. Be,Ca,Ci,Gr?,LA,MK, Ra,Sv,SJ,SF,So?,Ta,To? Resident. Note 30.
- P. zelicaon* Lucas. Anise Swallowtail. Be,Ci,Co,LA,MK,Mo,RA,Sv,SJ, Ta,To. Resident.
- P. indra minori* Cross. Cliff Swallowtail. MK,Sv?,SJ? Resident.
- P. cresphontes* Cramer. Giant Swallowtail. Ch,DB,Ed,Gr,Hi,Lu,Ot, Ro,So,To. Seasonal Resident. Note 31.
- P. ornythion* Boisduval. Ornythion Swallowtail. Ch,Da,Ed. Stray.
- P. rutulus* Lucas. Western Tiger Swallowtail. Be,Ca,Ci,Co,Gr,Hi,Li,LA,MK, Mo,Ot,RA,Sv,SJ,SM,SF,Si,So,Ta,To,Un. Resident.
- P. multicaudatus* W. F. Kirby. Two-Tailed Tiger Swallowtail. All counties except Cu,Le. Resident.
- P. eurymedon* Lucas. Pale Tiger Swallowtail. LA,MK?,Mo,RA,Sv,SM. Resident. Note 32.
- [*P. pilumnus* Boisduval]. Hypothetical. Note 33.
- [*P. troilus* Linnaeus]. Hypothetical. Note 34.
- P. palamedes* Drury. Palamedes Swallowtail. Co. Stray.

PIERIDAE (WHITES AND SULPHURS)

- Neophasia menapia* (C. and R. Felder). Pine White. Be,Ca,Ci,Co,Gr,Li,LA, MK,Mo,Ot,RA,Sv,SJ,SM,SF,Si,So,Ta,To. Resident.
- N. terlotii* (emended) Behr. Mexican Pine White. Hi. Resident.
- Appias drusilla* (Cramer). Tropical White. Gr. Stray.
- Pieris beckerii* W. H. Edwards. Great Basin White. Co,MK?,RA,SJ. Resident.
- P. sisymbrii* Boisduval. Spring White. All counties except Ch,Cu,DB,Gu,Le, LA,Qu?,Ro. Resident. Note 35.

- P. protodice* Boisduval and Leconte. Checkered White. All counties. Resident.
- P. occidentalis* Reakirt. Peak White. Ta. Resident. Note 36.
- P. napi mcdunnoughi* Remington. Veined White. Be,Co,LA,MK,Mo,RA,Sv,SM, SF,Ta. Resident.
- P. n. mogollon* Burdick. Mogollon Veined White. Ca,Li,Ot. Resident. Note 37.
- P. rapae* (Linnaeus). European Cabbage White. All counties except MK? Resident.
- Ascia monuste* (Linnaeus). Great Southern White. DA. Stray.
- A. josephina* (Godart). Giant White. Be. Stray.
- Euchloe ausonides* (Lucas). Creamy Marblewing. Be,Co,Mo,RA,SM,SF, Ta,Un. Resident.
- E. hyantis lotta* Beutenmuller. Western Marble. DA,Gr,Hi,Lu,MK,RA,Sv,SJ, Si,So,Ta. Resident.
- E. olympia* (W. H. Edwards). Olympia Marblewing. Cu,Gu,Ha,Qu,Un. Resident.
- Anthocharis cethura pima* W. H. Edwards. Pima Orangetip. DA,Gr,Hi, Lu. Resident.
- A. sara* Lucas. Sara Orangetip. All counties except Ch,Co,DB,Ed, Le,Ro,Un. Resident. Note 38.
- Colias philodice* Godart. Common Sulphur. All counties. Resident.
- C. eurytheme* Boisduval. Orange Sulphur. All counties. Resident.
- C. alexandra alexandra* W. H. Edwards. Queen Alexandra's Sulphur. Ca,Co, Gr,LA,MK?,Mo,RA,Sv,SM,SF,Si,Ta,To. Resident.
- C. meadii meadii* W. H. Edwards. Mead's Sulphur. Co,Ta. Resident.
- C. scudderii ruckesi* Klots. Scudder's Willow Sulphur. Co,Mo,SM, SF,Ta. Resident. Note 39.
- Zerene cesonia* (Stoll). Dogface. All counties except LA. Resident.
- Anteos clorinde* (Godart). Ghost Brimstone. Co,Hi,SM. Stray.
- A. maerula* (Fabricius). Yellow Brimstone. Hi. Stray.
- Phoebis sennae* (Linnaeus). Cloudless Giant Sulphur. All counties except Ci, Ha,LA,Mo,RA,Sv,SJ. Resident.
- P. philea* (Johansson). Orange-Barred Giant Sulphur. Gr,Hi,Ot. Stray.
- P. agarithe* (Boisduval). Orange Giant Sulphur. Ca,Ed,Gr,Ha,Hi,Le. Stray.
- Kricogonia lyside* (Godart). Guayacan Sulphur. Ed,Gr,Hi,Le,Li,Lu, Qu,Ro,Un. Seasonal Resident.
- Eurema दौरa* (Godart). Barred Sulphur. Hi. Stray.
- E. boisduvalianum* (C. and R. Felder). Boisduval's Yellow. Ed,Hi, Lu. Seasonal Resident.
- E. mexicanum* (Boisduval). Mexican Yellow. All counties except Cu,DB,Gu,Ha, LA,Qu,RA. Resident.
- [*E. salome* (C. and R. Felder)]. Hypothetical. Note 40.
- E. proterpia* (Fabricius). Tailed Orange. DA,Gr,Hi,Ot. Seasonal Resident.
- E. lisa* (Boisduval and Leconte). Little Sulphur. Cu,Ed,Hi,Le,Li, Qu,Ro,SJ,Sv. Resident.

- E. nise* (Cramer). Blacktip Sulphur. Hi. Seasonal Resident.
E. nicippe (Cramer). Sleepy Orange. All counties. Resident.
Nathalis iole Boisduval. Dwarf Yellow. All counties. Resident.
 [*Enantia melite* (Johansson)]. Hypothetical. Note 2.

LYCAENIDAE (LITTLE BUTTERFLIES)

- Lycaena arota virginiensis* (W. H. Edwards). Tailed Copper. Be,Ca,Ci,Co,LA, MK,Mo,RA,Sv,SM,SF,Ta,To,Un. Resident.
L. xanthoides dione (Scudder). Plains Gray Copper. Un. Resident.
L. cuprea snowi (W. H. Edwards). Lustrous Copper. Ta. Resident.
L. rubida (Behr). Ruddy Copper. Ra,Ta. Resident.
L. heteronea heteronea (Boisduval). Blue Copper. Co,RA,Sv,Ta. Resident.
L. helloides (Boisduval). Purplish Copper. Co,LA,Mo,RA,Sv,SJ,SM, SF,Ta. Resident.
 [*L. nivalis* (Boisduval)]. Hypothetical. Note 41.
Hypaurotis crysalus crysalus (W. H. Edwards). Colorado Hairstreak. Be,Ca, Ci,Co,Gr,Li,LA,MK,Mo,Ot,RA,Sv,SJ,SM,SF,Si,So,Ta,To,Un. Resident.
 [*Eumaeus minijas* (Hubner)]. Hypothetical. Note 2.
Atlides halesus (Cramer). Great Blue Hairstreak. Be,Ca,Ch,Ci,DA,Ed,Gr,Gu, Hi,Li,LA,Lu,MK,Ot,RA,Sv,SJ,SM?,SF,Si,So,Ta,To,Va. Resident.
Phaeostrymon alcestis alcestis (W. H. Edwards). Soapberry Hairstreak. Ch, DB,Ed,Gu,Ha,Li,Qu,Ro,SM,Un. Resident.
P. a. oslari (Dyar). Southwestern Soapberry Hairstreak. Gr,Hi. Resident.
Harkenclenus titus titus (Fabricius). Coral Hairstreak. Li. Resident. Note 42.
H. t. immaculosus (W. P. Comstock). Great Basin Coral Hairstreak. Be,Co,RA, Sv,SM,SF,Ta,To,Un. Resident.
Satyrrium behrii crossi (Field). Behr's Hairstreak. Be,Co,MK,RA,Sv,SJ,SM,SF, To,Un. Resident.
S. sylvinum sylvinum (Boisduval). Western Willow Hairstreak. Ca,MK,RA,Sv, SJ,SM?,Ta. Resident.
S. calanus godarti (Field). Banded Hairstreak. Be,Co,LA,Mo,RA,Sv,SM,SF, Ta,Un. Resident.
S. liparops strigosum (Harris). Striped Hairstreak. Un. Resident.
S. saepium (Boisduval). Buckthorn Hairstreak. LA. Resident.
Ministrymon leda (W. H. Edwards). Mesquite Hairstreak. Ca,Ch,Ci,DA,Ed, Gr,Hi,Li,MK,Ot,RA,SJ,SF,To. Resident.
Callophrys apama apama (W. H. Edwards). Green Hairstreak. Ca,Ci,Gr,Li, MK,Ot,SJ. Resident.
C. a. homoperplexa Barnes and Benjamin. Rocky Mountain Green Hairstreak. Co,LA,RA,Sv,SM,SF,Ta,Un. Resident.
C. sheridanii sheridanii (W. H. Edwards). White-Line Green Hairstreak. Li,Ot,RA. Resident. Note 42.
Callophrys spinetorum (Hewitson). Blue Mistletoe Hairstreak. Be,Ca,Ci,Co, DA,Ed,Gr,Li,LA,Lu,MK,Ot,RA,Sv,SJ,SM,SF,Si,So,Ta,To. Resident. Note 43.

- C. grynea siva* (W. H. Edwards). Juniper Hairstreak. All counties except Le. Note 44.
- Callophrys xami* (Reakirt). Succulent Hairstreak. Gr. Resident.
- C. mcfarlandi* (P. Ehrlich and Clench). Beargrass Hairstreak. Be,Ch,Ci,Co,Cu,DB,DA,Ed,Gu,Ha,Li,Lu,Mo,Ot,Qu,Ro,Sv,SM,So,To,Un. Resident. Note 45.
- C. augustus iroides* (Boisduval). Brown Elfin. Ca,Gr,Hi,Lu,RA,Sv,SJ. Resident. Note 46.
- C. fotis* (Strecker). Desert Elfin. Ci,MK,Sv,SJ. Resident.
- C. polios* Cook and Watson. Hoary Elfin. Co,MK,RA,Sv,SM. Resident.
- C. henrici solatus* Cook and Watson. Trans-Pecos Elfin. Da,Ed. Resident.
- C. eryphon* (Boisduval). Western Pine Elfin. Ca,Ci,Co,Gr,LA,MK,Mo,Ot?,RA,Sv,SJ,SM,SF,So?,Ta. Resident.
- Fixsenia favonius autolytus* (W. H. Edwards). Oak Hairstreak. Co,Cu,Ha,Li,Mo,Ot,Qu,SM,Un. Resident. Note 47.
- F. f. ilavia* (Beutenmuller). Southwestern Oak Hairstreak. Gr. Resident.
- F. polingi* (Barnes and Benjamin). Poling's Hairstreak. DA,Ed,Li. Resident. Note 48.
- Strymon melinus* Hubner. Gray Hairstreak. All counties. Resident.
- [*S. bebrycia* (Hewitson)]. Hypothetical. Note 49.
- S. columella* (Fabricius). Columella Hairstreak. Hi. Stray.
- Erora quaderna* (Hewitson). Arizona Hairstreak. Ca,Gr,Hi,Lu,Si,So, To. Resident.
- Brephidium exile* (Boisduval). Western Pygmy Blue. All counties. Resident.
- Leptotes cassius* (Cramer). Tropical Striped Blue. RA. Stray.
- L. marina* (Reakirt). Striped Blue. All counties. Resident.
- Zizula cyna* (W. H. Edwards). Tiny Blue. Ed,Lu. Seasonal Resident.
- Hemiargus ceraunus gyas* (W. H. Edwards). Southern Blue. Ca,DA,Ed,Gr,Hi,Lu,Ot,Si,So. Resident.
- H. isola* (Reakirt). Solitary Blue. All counties. Resident.
- Everes comyntas* (Godart). Eastern Tailed Blue. DA,Ed,Gr,Hi. Resident.
- E. amyntula* (Boisduval). Western Tailed Blue. Be,Ca,Ci,Co,Gr,Li,LA,Lu,MK,Mo,Ot,RA,Sv,SJ,SM,SF,Si,So,Ta,To,Un. Resident.
- Celastrina argiolus echo* (W. H. Edwards). Spring Azure. All counties except Ch,Cu,DB,Gu,Ha,Qu,Ro,Va. Resident.
- Euphilotes battoides centralis* (Barnes and McDunnough). Buckwheat Blue. Be,Ca,Ci,Co,Gr,Li,MK,Ot,RA,Sv,SM,SF,Si,So,Ta,To. Resident.
- E. b. ellisi* (Shields). Ellis' Buckwheat Blue. SJ. Resident.
- E. enoptes ancilla* (Barnes and McDunnough). Dotted Blue. Co?,RA?,Sv,SJ,SF? Resident. Note 50.
- E. rita rita* (Barnes and McDunnough). Desert Buckwheat Blue. Ca,DA,Gr,Hi,Si,So. Resident.
- E. r. coloradensis* (Mattoni). Colorado Desert Buckwheat Blue. Sv, SF. Resident.

- E. r. emmeli* (Shields). Emmel's Buckwheat Blue. SJ. Resident.
- E. spaldingi* (Barnes and McDunnough). Colorado Plateau Blue. Ci,MK,RA, SJ,So,Ta,To. Resident.
- Glaucopsyche piasus daunia* (W. H. Edwards). Arrowhead Blue. Ci,MK,Sv,SJ. Resident.
- G. lygdamus oro* (Scudder). Silvery Blue. Be,Ci,Co,Li,LA,MK,Mo,RA,Sv,SJ, SM,SF,Ta,To,Un. Resident. Note 42.
- G. l. arizonensis* McDunnough. Arizona Silvery Blue. Ca,Gr,Si,So. Resident.
- Plebejus melissa melissa* (W. H. Edwards). Orange-Bordered Blue. All counties except Hi,Lu. Resident.
- P. saepiolus whitmeri* F. M. Brown. Greenish Clover Blue. Co,LA,Mo,RA,Sv, SJ,SM,SF,Ta. Resident.
- P. s. gertschi* dos Passos. Arizona Greenish Clover Blue. Ca. Resident.
- P. icarioides pimbina* (W. H. Edwards). Rocky Mountain Lupine Blue. Ci,Co, Li,LA,MK,Mo,Ot,RA,Sv,SJ,SM,SF,Ta,Un. Resident. Note 42.
- P. i. buchholzi* dos Passos. Mogollon Rim Lupine Blue. Ca,Gr,Si. Resident.
- [*P. shasta* (W. H. Edwards)]. Hypothetical. Note 51.
- P. acmon texanus* (Goodpasture). Texas Emerald-Studded Blue. All counties. Resident.
- P. glandon franklinii* (Curtis). Arctic Blue. Be,Ca,Ci,Co,LA,MK,Mo,RA,Sv, SJ,SM,SF,So,Ta,To. Resident.

RIODINIDAE (METALMARKS)

- Calephelis nemesis* (W. H. Edwards). Mexican Metalmark. DA,Gr,Hi. Resident.
- C. rawsoni arizonensis* McAlpine. Arizona Metalmark. Hi. Resident.
- Emesis zela* Butler. Southwestern Metalmark. Ca,Hi. Resident.
- E. ares* (W. H. Edwards). Chiricahua Metalmark. Hi. Resident.
- Apodemia mormo mormo* (C. and R. Felder). Mormon Metalmark. MK,RA, Sv,SJ,Ta. Resident.
- A. m. duryi* (W. H. Edwards). Dury's Metalmark. DA,Ed. Resident. Note 52.
- A. m. mejicana* (Behr). Mexican Mormon Metalmark. Be,Ca,Co,DA,Gr,Hi,Li, Lu,Ot,Sv,SF,Si,So,Ta,To. Resident.
- A. palmerii* (W. H. Edwards). Arizona Mesquite Metalmark. Be,Ca,DA,Gr,Hi, Li,Lu,Ot,So. Seasonal Resident.
- A. nais* (W. H. Edwards). Coppermark. Ca,Ci,Gr,LA,MK,RA,Sv,SM,SF, To. Resident.

LIBYTHEIDAE (SNOUT BUTTERFLIES)

- Libytheana bachmanii larvata* (Strecker). Snout Butterfly. Be,Ca,Ch,Ci,Co, DB,DA,Ed,Gr,Gu,Ha,Hi,Le,Li,Lu,MK,Mo,Ot,Ro,SM,Si,Ta,To. Seasonal Resident.
- [*L. carinenta* (Cramer)]. Hypothetical. Notes 2,53.

NYMPHALIDAE (BRUSH-FOOTED BUTTERFLIES)

- Dione vanillae* (Linnaeus). Gulf Fritillary. Be, Co, DB, DA, Ed, Gr, Gu, Hi, Le, Li, Lu, Mo, Ot, Ro, Ta, Un. Seasonal Resident.
- D. moneta* Hubner. Mexican Silverspot. Ot. Stray.
- Heliconius isabella* (Stoll). Isabella Tiger. Ch. Stray.
- H. charitonius* (Linnaeus). Zebra Longwing. Be, Ch, Ed, Gr, Hi. Stray.
- Euptoieta claudia* (Cramer). Variegated Fritillary. All counties. Resident.
- E. hegesia* (Cramer). Mexican Fritillary. Hi, Lu? Stray.
- Speyeria cybele carpenterii* (W. H. Edwards). Great Spangled Fritillary. RA, Sv, SF, Ta. Resident. Note 54.
- S. aphrodite byblis* (Barnes and Benjamin). Aphrodite. Co, LA, Mo, SM, Ta, Un. Resident.
- S. nokomis nokomis* (W. H. Edwards). Seep Fritillary. Mo, SJ, SM, Ta. Resident. Note 55.
- S. n. nitocris* (W. H. Edwards). Arizona Seep Fritillary. Ca, Ci, Gr? Resident.
- [*S. n. coeruleus* (W. Holland)]. Hypothetical. Note 56.
- S. edwardsii* (Reakirt). Green Fritillary. Co, RA, Sv, Un. Resident.
- [*S. zere* (Boisduval)]. Hypothetical. Note 57.
- S. atlantis nikias* (Ehrmann). Jemez Mountains Fritillary. LA, RA, Sv. Resident. Note 57.
- S. a. dorothea* Moeck. Sandia Peak Fritillary. Be, Ci, MK, Sv, SJ, To. Resident. Note 58.
- S. a. nausicaa* (W. H. Edwards). Gila Fritillary. Ca, Gr, Si, So. Resident.
- S. a. electa* (W. H. Edwards). Front-Range Fritillary. Co, Mo, RA, SM, SF, Ta. Resident.
- S. a. ratonensis* Scott. Raton Mesa Fritillary. Co. Resident. Note 59.
- S. a. capitanensis* R. Holland. Capitan Mountains Fritillary. Li, Ot. Resident. Note 60.
- [*S. hydaspes* (Boisduval)]. Hypothetical. Note 61.
- S. mormonia eurynome* (W. H. Edwards). Mormon Fritillary. Be?, LA, MK, Mo, RA, Sv, SM, SF, Ta. Resident.
- Boloria selene tollandensis* (Barnes and Benjamin). Silver Meadow Fritillary. RA, Sv. Resident.
- B. freija browni* Higgins. Zigzag Fritillary. RA, Ta? Resident.
- B. titania helena* (W. H. Edwards). Purple Bog Fritillary. Co, LA, Mo, RA, Sv, SM, SF, Ta. Resident.
- Poladryas minuta minuta* (W. H. Edwards). Plains Penstemon Checkerspot. Co, Cu, DB, Gu, Ha, Mo, Qu, Ro, SM, Un. Resident.
- P. m. arachne* (W. H. Edwards). Montane Penstemon Checkerspot. Ca, Ci, Co, Gr, Li, MK, Mo, RA, Sv, SJ, SM, SF, Si, So, Ta, Un. Resident.
- Chlosyne theona thekla* (W. H. Edwards). Mexican Checkerspot. Ca, DA, Ed?, Gr, Hi, Li, Lu, Ot, Si, So. Resident.
- C. t. bolli* (W. H. Edwards). Boll's Checkerspot. Cu. Stray.
- C. chinatiensis* (Tinkham). Chinati Mountains Checkerspot. Ed. Seasonal Resident.

- [*C. cyneas* (Godman and Salvin)]. Hypothetical. Note 49.
- C. leanira fulvia* (W. H. Edwards). Orange Paintbrush Checkerspot. All counties except DB. Resident. Note 62.
- C. lacinia crocale* (W. H. Edwards). Sunflower Patch. Be,Ca,Ch,Cu,DA,Ed,Gr,Hi,Le,Li,Lu,MK,Ot,Ro,Sv,SF,Si,So,To,Va. Resident. Note 63.
- C. definita* (E. M. Aaron). Chihuahua Patch. DA,Ed,Lu,Ot,Si. Resident.
- C. janais* (Drury). Giant Patch. Ed. Stray.
- C. gorgone* (Hubner). Great Plains Checkerspot. Co,DB,Gu,Ha,LA,Mo,Qu,RA,Ro, Sv,SM,Un. Resident.
- C. nycteis drusius* (W. H. Edwards). Western Streamside Checkerspot. Ca,Co,Li,LA,Mo,Ot,RA,Sv,SM,SF,Ta,To,Un? Resident.
- [*C. palla* (Boisduval)]. Hypothetical. Note 64.
- C. gabbbii acastus* (W. H. Edwards). Pearly Checkerspot. Be,Ci,MK,RA,Sv,SJ,Ta. Resident.
- C. g. sabinus* (W. G. Wright). Southwestern Pearly Checkerspot. Ca,Gr,Lu,Si,So. Resident.
- Dymasia dymas* (W. H. Edwards). Tiny Checkerspot. Ca,DA,Ed,Gr,Hi,Lu,Ot,Si,So. Resident. Note 65.
- Texola elada ulrica* (W. H. Edwards). Ulrica Checkerspot. DA,Ed,Ro. Resident.
- T. e. perse* (W. H. Edwards). Perse Checkerspot. Ca,Gr,Hi,Lu. Resident.
- Phyciodes texanus texanus* (W. H. Edwards). Texas Crescent. Be,Ca,Ch,DB,DA,Ed,Gr,Hi,Li,Ot,Ro,Si,So,To. Resident.
- [*P. tulcis* (H. W. Bates)]. Hypothetical. Note 2.
- P. vesta* (W. H. Edwards). Mesquite Crescent. DA,Ed,Gr,Gu,Hi,Ot,Qu,Ro,So,To? Resident.
- P. phaon* (W. H. Edwards). Mat-Plant Crescent. Cu,DB,Ed,Ro,Un. Resident.
- P. tharos tharos* (Drury). Pearl Crescent. Be,Ca,Ch,DB,DA,Ed,Gr,Gu,Ha,Hi,Lu,Mo,Ot,Qu,Ro,Sv,Si,So,Un,Va. Resident. Note 66.
- P. tharos* Type B. Orange Crescent. Ca,Co,Li,LA,Mo,Ot,RA,Sv,SJ,SM,SF,To,Un. Resident. Note 66.
- P. campestris camillus* W. H. Edwards. Field Crescent. All counties except Ch,Cu,DB,Gu,Le,Lu,Qu,Ro. Resident.
- P. pictus* (W. H. Edwards). Painted Crescent. All counties except Co,Cu,LA,MK,SF,To,Va. Resident. Note 67.
- P. mylitta callina* (Boisduval). Thistle Crescent. All counties except Ch,Cu,DB,Ed,Le. Resident.
- Euphydryas anicia capella* (Barnes). Capella Checkerspot. MK,RA,Sv,SJ,SM,Ta. Resident.
- E. a. chuskae* (Ferris and R. Holland). Chuska Mountains Checkerspot. SJ,MK. Resident. Note 68.
- E. a. cloudcrofti* (Ferris and R. Holland). Sacramento Mountains Checkerspot. Li,Ot. Resident. Note 69.
- E. a. eurytion* (Mead). Mead's Checkerspot. Co,RA,Ta. Resident.

- E. a. hermosa* (W. G. Wright). Hermosa Checkerspot. Ca,Gr,Hi. Resident.
 [*E. editha* (Boisduval)]. Hypothetical. Note 70.
- Polygonia interrogationis* (Fabricius). Question Mark. Be,Ch,Co,Cu,DB,DA,
 Ed,Gr,Hi,Li,Ot,Ro,Sv,SM,SF,So,To,Va. Resident.
 [*P. comma* (Harris)]. Hypothetical. Note 71.
- P. satyrus* (W. H. Edwards). Tawny Anglewing. Be,Ca,Ci,Co,DA,Gr,Gu,Ha,Hi,
 Li,LA,Lu,MK,Mo,Ot,RA,Sv,SJ,SM,SF,Si,So,Ta,To,Un. Resident.
- P. faunus hylas* (W. H. Edwards). Green Anglewing. Be,Co,Mo,RA,Sv,SM,SF,
 Ta. Resident.
 [*P. silvius* (W. H. Edwards)]. Hypothetical. Note 70.
- P. gracilis zephyrus* (W. H. Edwards). Zephyr Anglewing. Be,Ca,Ci,Co,Gr,Li,
 LA,MK,Mo,Ot,RA,Sv,SJ,SM,SF,Si,So,Ta,To,Un. Resident.
- Nymphalis californica* (Boisduval). California Tortoiseshell. Ca,Ci,Gr,LA,RA,
 Sv,SJ,SM,SF,Si,To. Resident.
- N. antiopa antiopa* (Linnaeus). Mourning Cloak. All counties. Resident.
- Aglais milberti* (Godart). Fire-Rim Tortoiseshell. Ca,Ci,Co,Gr,Li,LA,Mo,Ot,
 RA,Sv,SJ,SM,SF,So,Ta,To. Resident.
- Vanessa virginiensis* (Drury). American Painted Lady. All counties. Resident.
- V. cardui* (Linnaeus). Painted Lady. All counties. Seasonal Resident.
- V. annabella* (Field). West Coast Lady. All counties except Ch,Cu,DB,Ed,Gu,
 Ha,Le,Qu. Resident.
- V. atalanta* (Linnaeus). Red Admiral. All counties. Resident.
 [*Hypanartia lethe* (Fabricius)]. Hypothetical. Note 2.
- Precis coenia* (Hubner). Buckeye. All counties except Ci,Co,LA,Ta,To,Va.
 Resident.
- P. evarete nigrosuffusa* (Barnes and McDunnough). Dark Buckeye. Ca,DA,Ed,
 Gr,Hi,Lu,Va. Seasonal Resident.
- Anartia jatrophae luteipicta* Fruhstorfer. White Peacock. Ed. Stray.
 [*Siproeta stelenes* (Linnaeus)]. Hypothetical. Note 72.
- S. epaphus* (Latreille). DA. Stray. Note 73.
- Limenitis arthemis arizonensis* W. H. Edwards. Arizona Red-Spotted Purple.
 Ca,DA,Ed,Gr,Hi,Li,Lu,Ot,Si,So. Resident.
- L. archippus archippus* (Cramer). Viceroy. Be,Gu,Ha,Mo,RA,Sv,SJ,SM,SF,So,
 Un,Va. Resident.
- L. a. obsoleta* W. H. Edwards. Desert Viceroy. Be,DB,DA,Ed,Gr,Hi,SJ,Si,So,
 Va. Resident.
- L. weidemeyeri* W. H. Edwards. Weidemeyer's Admiral. Be,Ca,Ci,Co,Gr,Li,
 LA,MK,Mo,Ot,RA,Sv,SJ,SM,SF,Si,So,Ta,To,Un. Resident.
- L. bredowii bredowii* (Geyer). California Sister. All counties except Cu,DB,Gu,
 Ha,Le,Qu,Un. Resident.
- Myscelia cyananthe* (C. and R. Felder). Dark Blue Wave. Ot. Stray.
- Eunica monima* (Stoll). Dingy Purplewing. Hi. Stray.
- Mestra amymone* (Menetries). Noseburn Wanderer. Ch,Ed,Hi,Le,Ro,So. Stray.

- Hamadryas februa* (Hubner). Gray Cracker. Hi. Stray.
 [*Historis acheronta* (Fabricius)]. Hypothetical. Note 2.
 [*Smyrna karwinskii* Geyer]. Hypothetical. Note 2.
 [*Marpesia coresia* (Godart)]. Hypothetical. Note 74.
M. petreus (Cramer). Ruddy Daggerwing. Hi. Stray.
 [*M. eleucea* Hubner]. Hypothetical. Note 75.
Anaea aidea (Guerin-Meneville). Tropical Leafwing. Ch,Ed,Hi. Resident.
A. andria Scudder. Goatweed Butterfly. Be,Ca,Ch,Cu,DA,Ed,Gr,Gu,Ha,Hi,Le,
 Li,Lu,Mo,Ot,Qu,Ro,Sv,SF,Si,Ta,To,Un,Va. Resident.
Asterocampa celtis (Boisduval and Leconte). Hackberry Butterfly. Be,Ca,Ch,
 Co,Cu,DB,DA,Ed,Gr,Gu,Ha,Hi,Li,Lu,Mo,Ot,Qu,Ro,SM,Si,So,To,Un. Resi-
 dent.
A. leilia (W. H. Edwards). Desert Hackberry Butterfly. Hi,Lu. Resident.
A. clyton (Boisduval and Leconte). Tawny Emperor. Ed,Gr,Hi,Lu. Resident.

SATYRIDAE (SATYRS)

- Cyllopsis pyracmon henshawi* (W. H. Edwards). Henshaw's Satyr. Hi. Resi-
 dent. Note 76.
C. pertepida dorothea (Nabokov). Nabokov's Arroyo Satyr. All counties except
 Cu,DB,Le,Ro,Qu,Va. Resident.
Megisto rubricata rubricata (W. H. Edwards). Red Satyr. Ch,Cu,DA,Ed,Gu,
 Ha,Li,Mo,Ot,Qu,SM,Un. Resident.
M. r. cheneyorum (R. Chermock). Southwestern Red Satyr. Ca,Gr,Hi, So.
 Resident.
Coenonympha ochracea W. H. Edwards. Ochre Ringlet. Be,Co,LA,Mo,RA,Sv,
 SM,Ta,To. Resident.
Cercyonis pegala (Fabricius). Large Wood Nymph. Be,Co,Cu,Gr?,Ha,Mo,Qu,
 RA,Ro,Sv,SJ,SM,SF,Ta,To,Un. Resident. Note 77.
C. meadii meadii (W. H. Edwards). Red Wood Nymph. SJ,RA. Resident. Note
 78.
C. m. mexicana R. Chermock. Mexican Red Wood Nymph. Be,Ca,DA,Ed,
 Gr,Hi,RA,Sv,So,Ta,To. Resident. Note 78.
C. sthenele paulus (W. H. Edwards). Great Basin Wood Nymph. Ca?,SJ.
 Resident.
C. oetus charon (W. H. Edwards). Small Wood Nymph. Be,Ca,Co,Li,LA,Mo,Ot,
 RA,Sv,SJ,SM,SF,So,Ta,To,Un. Resident.
Erebia magdalena magdalena Strecker. Rockslide Alpine. Ta. Resident.
E. epipsodea Butler. Common Alpine. Mo,RA,SM,SF?,Ta. Resident.
 [*E. callias* W. H. Edwards]. Hypothetical. Note 79.
Gyrocheilus patrobas (Hewitson). Red-Bordered Brown. Ca,Gr,Hi,Si. Resi-
 dent.
Neominois ridingsii ridingsii (W. H. Edwards). Ridings' Satyr. Co,Gu,Mo,RA,
 SM,Ta,Un. Resident.

- N. r. neomexicanus* Austin. New Mexico Satyr. Ca,Ci,MK. Resident. Note 80.
Oeneis chryxus chryxus (Doubleday and Hewitson). Chryxus Arctic. Co,LA, Mo,RA,Sv,SM,SF,So,Ta. Resident. Note 81.
O. uhleri uhleri (Reakirt). Uhler's Arctic. Co,RA,Ta. Resident.
O. alberta capulinensis F. M. Brown. Capulin Mountain Arctic. Co, Un. Resident. Note 82.
O. a. daura (Strecker). Mogollon Rim Arctic. Ca. Resident.
O. melissa melissa (Fabricius). Mottled Arctic. Mo,RA,Ta. Resident.
O. polixenes brucei (W. H. Edwards). Banded Arctic. Mo,RA,SF,Ta. Resident.

DANAIDAE (MILKWEED BUTTERFLIES)

- Danaus plexippus* (Linnaeus). Monarch. All counties. Seasonal Resident.
D. gilippus strigosus (H. W. Bates). Desert Queen. All counties except Va. Resident.
D. eresimus (Cramer). Soldier. Hi. Stray.

NOTES

1. A specimen in the USNM is labeled "N. Mex.," which probably refers to northern Mexico.
2. This is an Edwards (1872) report, without supporting data or specimens.
3. A 1982 report from the Guadalupe Mountains, Eddy Co., is based on a sight record and requires confirmation.
4. There are two old NM reports of this non-migratory Great Plains species. One specimen, collected in 1882 by F. H. Snow near Las Vegas, San Miguel Co., was examined by Toliver and found to be *T. pylades*. The other is an AMNH specimen allegedly collected by Cohn in 1951 near Jemez Springs, Sandoval Co. Assuming a correct identification (determined by Stanford in 1971), the specimen may be mislabelled or it may have been brought into NM as an immature in livestock forage.
5. One 1899 sight record by Cockerell from Dona Ana Co. is unsupported because of difficulty identifying *clitus* in hand, let alone in flight. The NMSU collection contains a ca. 1900 Townsend specimen from Dona Ana Co. catalogued under *E. j. clitus*; Cary examined it and found it to be *E. tristis tatius*.
6. Snow's 1882 specimen from Las Vegas, San Miguel Co., was examined by Toliver and found to be *E. telemachus*.
7. Williams claimed this taxon from the Jemez Mountains, April-June 1913. Flight period and resemblance to *E. telemachus* suggest misidentification of the latter, which is common there, yet went unreported by Woodgate or Williams. A report of *propertius* from the Sandia Mountains in 1959 by Stallings, Turner and Ehrlich ("1959"[1960]) probably has a similar explanation. Until *E. telemachus* was described by Burns in 1960, observations of *telemachus* were erroneously assigned to other taxa.
8. Plate 93 in Howe (1975) illustrates a Colfax Co. specimen of *E. horatius* incorrectly captioned as *E. meridianus*. Toliver examined the actual specimen and noted the error.

9. One old specimen is labelled "Alamo, NM". The only such place is a highway intersection in eastern Guadalupe Co. Although within the range of *E. horatius*, no other butterfly reports are known from there. The specimen likely originated from Alamogordo, Otero Co., which experienced much butterfly collecting ca. 1900 and whose Sacramento Mountains support abundant *E. horatius*. Local residents casually refer to Alamogordo as Alamo. "Alamo" is Spanish for cottonwood tree.
10. All six reports of this species from NM are suspect. Snow (1883) reported *E. martialis* from Water Canyon, Socorro Co. Toliver examined the specimen and found two errors: it was *E. horatius* and it was labelled Gallinas Canyon, San Miguel Co. A report by Stallings, Turner and Ehrlich ("1959"[1960]) from the Sandia Mountains is probably *E. telemachus* (see Note 7). The remaining four are Carl Cushing reports from the Jemez Mountains in the mid-1960s. This is the most likely place to find *E. martialis* in NM, but neither Woodgate's many years of collecting there nor Holland's recent survey turned it up. Cushing's reports may be *E. horatius* or *E. telemachus*.
11. Difficulty distinguishing *E. persius* from *E. afranius* has lead to several unverifiable determinations of NM specimens.
12. Some argue that *P. c. communis* and *P. c. albescens* can be separated based on genitalic differences and are therefore separate species. Other lepidopterists (e.g., Scott, 1986) believe they represent one genitally dimorphic taxon. Bailowitz and Brock (1991) report genitalic intergrades in southeast AZ. Although we have not examined genitalia of NM specimens, we know of no place in NM where *P. c. albescens* occurs in the absence of *P. c. communis*. We believe they may be conspecific, with *P. c. albescens* more common at lower altitudes and toward AZ.
13. The type locality of *H. alpheus*, described in 1876, is southwest of Raton in Colfax Co.
14. This skipper is named for John Woodgate, who collected the type specimens in the Jemez Mountains in 1913.
15. *H. viridis* was described in 1883 from specimens collected by Snow near Las Vegas, San Miguel Co. Snow first reported these specimens as *H. juba*.
16. A 1968 report from Capulin Mountain National Monument, Union Co., was examined by Toliver and found to be *P. origenes*.
17. Form *stigma* (Skinner), now a synonym of *P. vibex brettoides* (W. H. Edwards), was described in 1896 from material collected in "southern NM". No other NM reports of *P. vibex* are known. The LACM has an old, properly catalogued specimen of *H. phyleus* with an old label calling it "*brettoides*". This suggests misidentification in the past, made possible because males of *P. vibex* and *H. phyleus* are quite similar. Females are easy to tell apart, but Skinner's description of *stigma* includes no females! We suggest that the types of *stigma* may actually be *H. phyleus*. The types of *stigma* should be examined and their identity resolved.
18. Evans' (1955) reference to a NM specimen in the British Museum requires substantiation.
19. Snow reported this from Gallinas Canyon, San Miguel Co., in 1882. This must be either an aberrant or a misidentified *P. taxiles*, which is common there. Similarity between these two taxa is indicated by Scott's (1986) opinion that they are conspecific, an opinion we do not share. *P. taxiles* was described in

1881; Snow was probably unaware of the existence of this new western *Poanes* at the time of his NM report.

20. Snow reported this from Gallinas Canyon, San Miguel Co., in 1882. This must be a misidentification of *E. vestris*, which is common there.
21. Henry L. Viereck collected the type specimens of *A. vierecki* from Dry Canyon near Alamogordo, Otero Co., May 8-13, 1902.
22. Form *margarita* (Skinner) was named in 1914 from specimens collected by Woodgate near Jemez Springs, Sandoval Co.
23. In 1981 Cibola Co. was created from the western part of Valencia Co. Pre-1981 Valencia Co. reports lacking detailed locality data are now impossible to attribute to either present-day Valencia or Cibola counties. *A. oslari* is one species with such a report.
24. In 1911 Skinner described *Pamphila quinquemacula* from Las Cruces, Dona Ana Co. It is synonymous with *A. eos*.
25. There is one report of this species from Jemez Springs, Sandoval Co. It must be a misidentified *A. phylace*, which is common there and very similar in appearance. The closest occurrence of *A. fimbriata* is in the Chiricahua Mountains of southeast AZ, about 500 km distant.
26. D. Stallings and Turner described *A. carlsbadensis* in 1957 from Carlsbad Caverns National Park, Eddy Co. Taxonomists consider this to be either a synonym or a subspecies of *A. neumoegeni*.
27. The numerous named populations of this taxon need work. In 1911, *M. y. navajo* Skinner was described from Ft. Wingate, McKinley Co. *M. y. elidaensis* D. Stallings, Turner and J. Stallings was described in 1966 from Elida, Roosevelt Co.
28. *M. u. violae* D. Stallings and Turner, synonymized by Scott (1986), was described in 1956 from specimens collected at Carlsbad Caverns National Park, Eddy Co.
29. Rincon, NM, is the type locality of *P. p. curvifascia* (Skinner), described in 1902 and now part of the synonymy. Where is Rincon? The word means "corner" or "box canyon" in Spanish, and is common in the NM toponymy. Pearce (1965) discusses 10 such places in NM, a small fraction of the total. The railroad junction at Rincon, in Dona Ana Co., is the most likely origin of *P. p. curvifascia*.
30. Published reports of *P. bairdii* from Otero and Lincoln counties were re-examined by the authors and determined to be *P. polyxenes*. Several Sierra and Socorro county reports were similarly dismissed. A single alleged *P. bairdii* capture from Grant Co. was considered uncertain by the collector.
31. Visual sightings of *P. cresphontes*, indicated by "?", may refer to the very similar, but less common, *P. thoas*. All known specimens from NM are *P. cresphontes*.
32. *P. eurymedon* is one of several species with dubious old reports from High Rolls, Sacramento Mountains, Otero Co. The others are *S. sylvinum*, *C. fotis*, *O. chryxus*, and *S. behrii*, all species for which no confirmed records exist for the Sacramento Mountains or any other place within a 300-km radius. Necessary habitat and larval hostplants are limited or absent, and none are known to wander.
33. Edwards (1872) attributes *P. pilumnus* to NM, but without substantiating data. Bailowitz and Brock (1991) cite some AZ records, so it may turn up here

some day. AZ Territory was not formally separated from NM Territory until 1863, so NM reports from Edwards' era and earlier may actually be from localities now within the State of Arizona.

34. Cushing reports two Luna Co. localities (Columbus and Deming) for this species, but no specimens have been examined. Misidentification of the similar *B. philenor*, which breeds there, is the most plausible explanation for these reports.
35. Most specimens from southwestern Hidalgo Co. tend toward form *transversa* Barnes and Benjamin, now dubiously synonymized with *P. sisymbrii*.
36. This species is uncommon in NM, limited to the highest peaks. Taxonomic confusion with the ubiquitous and weedy *P. protodice* has led to unconfirmed reports of *P. occidentalis* from Colfax, Rio Arriba, Sandoval and San Miguel counties.
37. *P. napi mogollon* was named in 1942 for the Mogollon Mountains of Catron Co., where some of the types were collected.
38. Specimens resembling *A. s. inghami* Gunder are most common in southwest NM, while the *A. s. julia* W. H. Edwards phenotype prevails in northern NM.
39. Subspecies *ruckesi* was described in 1937 from specimens collected near Cowles in San Miguel Co.
40. Ehrlich and Ehrlich (1961) depict an alleged NM *E. salome*, but no specimens with data are known. Cary reported one from Hidalgo Co. in 1984, but Bailowitz examined it and determined it to be *E. boisduvalianum*.
41. In 1882 Snow reported *Chrysophanus ianthe* (W. H. Edwards), now *L. nivalis*, from Gallinas Canyon, San Miguel Co. In 1966 R. Langston reported it from the Jemez Mountains, Sandoval Co. Both must be misidentifications.
42. The small population in the Sacramento Mountains may warrant description as a separate taxon.
43. *C. spinetorum* is dimorphic in southcentral NM. The less common form resembles *C. millerorum* (Clench), which was described in 1981 from Mexico. Robbins (1990) showed that, despite two forms, only one species is present in Otero Co.
44. *C. g. siva* was described in 1874 from specimens collected at Ft. Wingate, McKinley Co. In southeast NM, this taxon appears to interbreed with *C. g. gryna*. Specimens with some wing characters of nominotypical *gryna* are known from Chaves, Colfax, Eddy, Otero, Quay and Taos counties.
45. This species was described in 1960 from specimens collected in the Sandia Mountains near Albuquerque.
46. "New Mexico" is the type locality for *C. a. annetteae* (dos Passos), which was described in 1947 and is now dubiously synonymized.
47. The type locality of *F. f. violae* (D. Stallings and Turner) is near Folsom, Union Co. It was described in 1947 and is now synonymized.
48. *F. p. organensis* Ferris was described in 1979 from the Organ Mountains in Dona Ana Co. It was synonymized by Scott (1986).
49. A single unsubstantiated report requires confirmation.
50. *E. enoptes* is apparently rare in NM. Perhaps two valid records are known. Reports from Santa Fe, Colfax and Rio Arriba counties are suspect and require confirmation.

51. A vague reference to Taos Co. for this species is on file, but we know of no specimens or data to support it.
52. Populations of *A. mormo* in NM do not conform well to the named subspecies available. *A. m. duryi* is very distinct and may be a full species; it was described in 1881 from near Mesilla, Dona Ana Co.
53. Cary reported it twice, but his were misidentifications based on the incorrect figure in Howe (1975).
54. *S. c. carpenterii* was described in 1876 from specimens collected by the Wheeler Expedition to NM. In 1947 the type locality was fixed as Taos Peak, Taos Co.
55. Form *S. n. nigrocaerulea* (W. and T. Cockerell) was described in 1900 from Sapello Canyon, San Miguel Co. It has been synonymized variously with *S. n. nokomis* and *S. n. nitocris*. Aberration *S. n. rufescens* (T. Cockerell) was described from the same location in 1909.
56. Subspecies *S. n. coerulescens* is a puzzle in NM. There are two old reports of *S. nokomis* from Otero Co., but most of the habitat there has been destroyed and recent attempts to locate colonies have failed. Thus there is no way to confirm the old reports. If *nokomis* is or was there, it may or may not be this Mexican race.
57. There is no evidence that *S. zerene* occurs in NM, despite recent references to the contrary (e.g., Tilden and Smith, 1986), which perpetuate outdated information. Williams (1914) reported *zerene* among Woodgate's material, but this cannot be taken at face value. Williams did not report *S. atlantis*, an unusual omission because it is abundant there and Woodgate provided the type material for *S. a. nikias* (Ehrmann). Ehrmann (1917), however, in his description of *nikias* from Temez [sic] Springs, includes the following revelation: "when I received this species of *Argynnis* [now *Speyeria*] from Mr. John Woodgate he wrote me: "This species has been identified by two different authorities, one named it *Arg. bremneri* Edw. and the other, *Arg. behrensi* Edw." Both identifications offered to Woodgate are now recognized as subspecies of *S. zerene*, hence Williams' report. Ehrmann recognized its distinctness, however, and gave it a new name which is now treated as a subspecies of *S. atlantis*.
58. Subspecies *S. a. dorothea* was described in 1947 from the Sandia Mountains, Sandoval Co.
59. Subspecies *S. a. ratonensis* was described in 1981 from specimens collected on Raton Mesa, Colfax Co.
60. Subspecies *S. a. capitanensis* was described in 1988 from the Capitan Mountains, Lincoln Co.
61. *S. hydaspe conquista* dos Passos and Grey was described in 1945 from material allegedly collected on August 8, 1932, near Santa Fe. Other specimens were allegedly taken four days later near Therma, now Eagle Nest, in Colfax Co., and one of these specimens is figured by Howe (1975, Plate 31, figure 15). No one has seen this species anywhere in NM before or since. We believe these specimens were actually collected elsewhere, perhaps Wyoming, and mislabelled.
62. NM material has been variously assigned to the genera *Chlosyne* and *Thessalia*, and to such species as *leanira* (C. and R. Felder), *alma* (Strecker)

- and *fulvia*. A 1988 revision added subspecies *C. l. coronado* (M. Smith and Brock) to the names available. Because *C. leanira* occurs statewide, is unrestricted by major physiographic barriers, and is variable, we place all NM populations into one taxon, *fulvia*.
63. In 1893 W. H. Edwards named several forms of *C. l. crocale* from near Las Cruces, including *rufescens* and *nigrescens*.
 64. In the AMNH there is an old specimen of *C. palla* labelled Jemez Springs. It is either mislabelled or misidentified.
 65. Individuals resembling AZ subspecies *D. d. chara* (W. H. Edwards) occur in southwest NM and intergrade with the nominate phenotype which prevails to the east.
 66. Populations formerly thought of as *P. tharos* actually represent at least two species, perhaps as many as four (Ferris, 1989). In addition, the nomenclature is in disarray. We recognize two taxa at this time, calling them *P. tharos* and *P. tharos* Type B until better names are provided.
 67. Aberration *jemezensis* Brehme was bred by Woodgate in 1912 in Jemez Springs, Sandoval Co.
 68. The type locality of *E. a. chuskae* is the Chuska Mountains of San Juan Co.
 69. The type locality of *E. a. cloudcrofti* is the Sacramento Mountains near Cloudcroft, Otero Co.
 70. The INHS has in its collection a specimen labelled Las Vegas, NM. However, Toliver determined that it was purchased, not collected, in Las Vegas.
 71. Common eastern *P. comma* is misrepresented in NM by one old Skinner report from San Miguel Co. It is either mislabelled, misidentified, or else it came in on the train.
 72. There are no documented reports of this species from NM. There is an unsubstantiated report by Edwards (1872). R. Holland caught one 2 mi. south of the NM/TX border. Bailowitz and Brock (1991) report one sighting from AZ.
 73. *S. epaphus* is not listed in Scott (1986), Miller and Brown (1981), or revisions thereto. Paul Opler found this NM and US record in the Oregon State University collection.
 74. Edwards (1872) lists this species from NM, but without supporting data. Howe (1975) figures a specimen from El Paso, TX, just south of the NM border.
 75. Scudder (1892) reported this species from NM without supporting data.
 76. Some authors present this taxon as two separate species: *C. pyracmon* (Butler) and *C. henshawi* (W. H. Edwards). We believe they are seasonal forms of the same species. Otero Co. reports are erroneous, probably mislabeled as to locality.
 77. NM specimens do not fit well within subspecific taxa available. Some resemble *C. p. texana* (W. H. Edwards), while others resemble Rocky Mountain populations sometimes assigned to *C. p. boopis* (Behr). Scott (1986) places our populations with *C. p. nephele* (W. Kirby).
 78. *C. meadii* is variable, and variation in NM specimens is not captured by the subspecific names available.
 79. Holland (1905, pp. 209-210) claims it is "not uncommon on the high mountains of New Mexico." We know of no actual specimens or records with data.

80. The type locality of *N. r. neomexicanus*, described in 1986, is the Zuni Mountains of west-central NM.
81. An isolated colony of *O. chryxus* in the San Mateo Mountains, Socorro Co., may warrant subspecies status.
82. *O. a. capulinensis* was described in 1970 from Capulin Mountain National Monument in Union Co.

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